

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

1. (Currently Amended) A sensing device for sensing an analyte in a liquid sample comprising:

a substrate;

at least one nanotube disposed on the substrate;

at least one electrical contact, the contact being in electrical communication with the at least one nanotube; and

a gate electrode disposed spaced-apart and adjacent to the nanotube and configured to influence at least on electrical property of the nanotube; and

a sample exposure portion configured to maintain a the liquid analyte sample in contact with the at least one nanotube, wherein the sample exposure portion is configured to maintain the liquid sample without electrical contact with the gate electrode.

2. (Previously Amended) The sensing device of claim 1, wherein the sample exposure portion is configured to maintain contact with a liquid having an electrical conductivity not substantially greater than the electrical conductivity of cyclohexane.

3. (Original) The sensing device of claim 1, wherein the at least one nanotube spans between two electrical contacts.
4. (Original) The sensing device of claim 1, wherein the at least one electrical contact comprises a titanium material.
5. (Original) The sensing device of claim 2, wherein the substrate comprises a silicon material configured to provide an electrical gate.
6. (Withdrawn) A method for sensing an analyte dissolved in a liquid, the method comprising: wetting a NTFE device with a liquid, the device comprising at least one nanotube in electrical contact with a source electrode and a drain electrode and disposed over an electrical gate; and measuring an electrical property of the NTFE device while wetted with the liquid.
7. (Withdrawn) The method of claim 6, wherein the wetting step further comprises wetting the NTFE device with a solvent having a conductivity similar to cyclohexane.
8. (Withdrawn) The method of claim 6, wherein the wetting step further comprises wetting the NTFE device with cyclohexane.
9. (Withdrawn) The method of claim 6, wherein the wetting step further

comprises wetting the NTFE device with cyclohexane in which an analyte is dissolved.

10. (Withdrawn) The method of claim 6, wherein the wetting step further comprises streaming the liquid over the NTFE device.

11. (Withdrawn) The method of claim 6, further comprising determining information relating to an analyte in the liquid using information from the measuring step.

12. (Withdrawn) The method of claim 6, further comprising determining a species of analyte in the liquid using information from the measuring step.

13. (Withdrawn) The method of claim 6, further comprising determining a concentration of analyte in the liquid using information from the measuring step.

14. (Withdrawn) The method of claim 6, wherein the measuring step further comprises determining a relationship between a gate voltage and a conductance of the NTFE device.

15. (Withdrawn) The method of claim 6, further comprising determining a gate voltage shift.

16. (Withdrawn) The method of claim 6, further comprising determining a

hysteresis.

17. (Withdrawn) The method of claim 6, further comprising processing a measured shift in a threshold gate voltage/conductivity values and a Hammett sigma value to identify an analyte species.

18. (Withdrawn) The method of claim 6, further comprising processing a measured shift in a threshold gate voltage/conductivity values to determine an analyte concentration in the liquid.

19. (Withdrawn) The method of claim 6, further comprising processing a gate voltage shift and a hysteresis to determine information relating to an analyte in the liquid.

20. (Canceled).

21. (Canceled).